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| 10/533,446 | 07/12/2006 | Patrick Boschet | 0595-1030 | 1820 |
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| YOUNG & THOMPSON | | | NICHOLS, CHRISTOPHER S | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|---|---------------------------------------|
| Office Action Summary | Application No. 10/533,446 | Applicant(s) BOSCHET ET AL. |
| | Examiner Christopher S. Nichols | Art Unit 1791 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 September 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 8-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 8-31 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1448)
 Paper No(s)/Mail Date 5/2/2005
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

MOULD FOR A COMPOSITE MATERIAL PART COATED WITH A STRIPPING PRODUCT

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8-9, 15-17, and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US 5,364,888) in view of Lopes et al. (US 4,681,714).

Regarding **Claims 8-9 and 16-17**, the stripping composition claimed is summarized below in Table I by weight percent ranges.

Table I: Claimed Stripping Composition By Weight %

| Ingredient | Compound | Wt. % Ranges |
|----------------------|----------------------------|---------------------|
| Base Ingredient | Epoxy Polydimethylsiloxane | 55.5% - 99.5% |
| Polymerization Agent | Diaryliodonium Salt | 0.5% - 5.5% |
| Anti Adhesion Agent | Epoxy Polydimethylsiloxane | ≤ 16.7% |
| Anti Stick Agent | Vinyl Ether | 0% - 22.3% |

In addition, the base ingredient and anti adhesion ingredient claimed is the same compound, epoxy polydimethylsiloxane. Therefore, the above weight percentages may be adjusted to combine the base ingredient and anti adhesion agent. The stripping composition based on the base ingredient and anti adhesion ingredient being the same ingredient is summarized below in Table II.

Table II: Claimed Stripping Composition by Weight %

| Ingredient | Compound | Wt. % Ranges |
|---------------------------------|----------------------------|---------------------|
| Base Ingredient + Anti Adhesion | Epoxy Polydimethylsiloxane | 72.2% - 99.5% |
| Polymerization Agent | Diaryliodonium Salt | 0.5% - 5.5% |
| Anti-Stick Agent | Vinyl Ether | 0% - 22.3% |

Aoki teaches an organosiloxane release composition (see Claim 1). The composition comprises an organopolysiloxane, polyether, and omium salt (see Claim 1). The organopolysiloxane may be an epoxy polydimethylsiloxane (see column 4 lines 1-7). The polyether may be a vinyl ether (see Claim 1; see also column 4 line 16-63). The omium salt may be a diaryliodonium salt (see column 5 line 11-23). The claimed composition is summarized in Table III below by weight percent ranges.

Table III: Aoki Release Composition by Weight %

| Ingredient | Compound | Wt. % Ranges |
|-------------------|--------------------|---------------------|
| A | Organopolysiloxane | 41.7% - 99% |
| C | Omium Salt | 0.01% - 16.6% |
| B | Polyether | 0.99% - 41.7% |

A quick comparison of Table II and Table III shows that Applicant's claimed amounts of epoxy polydimethylsiloxane, diaryliodonium salt, and vinyl ether overlap with Aoki's ranges of organopolysiloxane, omium salt, and polyether respectively. “[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated’ if one of them is in the prior art.” *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Aoki is silent regarding using the coating as a release agent for molds. Lopes teaches coating a mold with a release coating comprising a polydimethylsiloxane, a solvent and a salt

(see Title; see also Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to coat a mold with the mixture taught by Aoki because Lopes teaches coating a mold with a release agent increases the efficiency of manufacturing (see column 1 line 24-33). Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to coat a mold with the mixture taught by Aoki because one of ordinary skill in the art would have been able to carry out such a substitution to achieve the predictable result of improving product release from a mold. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

Regarding **Claims 15 and 24**, neither Aoki nor Lopes teach impregnating a wipe or cloth with a coating composition. It is well known that a coating may be applied with a porous instrument such as wipe or cloth. For example, shoe polish is routinely applied to shoes with a wipe or cloth. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to impregnate a wipe or cloth with the composition taught by Aoki because applying a composition to a wipe or cloth allows one to easily apply the composition to an article.

Regarding **Claim 25**, Aoki teaches the release composition is UV curable (see Abstract).

Regarding **Claim 26**, Lopes teaches that silicone coating compositions may be cured (polymerized) by applying heat (see column 3 line 31-52).

Regarding **Claims 27-28**, neither Aoki nor Lopes specifically teach the claimed heat curing conditions. Lopes teaches that silicone coating compositions curing (polymerization) is directly related to temperature and pressure (see column 7 Example 1; see column 7 Table 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine the optimum temperature and time for to heat cure the composition without undue experimentation because Lopes teaches that silicone coating compositions curing (polymerization) is directly related to temperature and pressure (see column 7 Example 1; see column 7 Table 1) "Discovery of optimum value of result effective variable in known process is ordinarily within skill of art." *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

3. Claims 10-14, 18-23, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki in view of Lopes as applied to claims 8-9, 15-17, and 23-28 above, and further in view of Eckberg et al. (US 5,650,453).

Regarding **Claims 10 and 18**, Aoki teaches a release composition wherein the polyether ingredient comprises mixtures of vinyl ether compounds (see column 4 line 60-63). Aoki does not clearly teach the mixture comprising a mixture of monovinyl ether and divinyl ether. Eckberg teaches an epoxysiloxane composition comprising a epoxy silicone, ether compound, and a salt (see Claim 1). The ether compound comprises mixtures of monovinyl and divinyl ethers (see Claim 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use mixtures of monovinyl and divinyl ethers as the polyether ingredient in the method by Aoki because Eckberg teaches that mixtures of monovinyl and divinyl ethers reduce the viscosity of the coating mixture, which improves the cure rate of the mixture so that faster and more efficient coating may be achieved (see column 6 line 50-63).

Regarding **Claims 11-12 and 19-20**, Eckberg teaches using dodecyl monovinyl ether and 1,4 cyclohexane dimethanol divinyl ether (see Claim 1 at line 51-58).

Regarding **Claims 13-14 and 21-22**, Aoki teaches every claimed limitation except the claimed concentrations of dodecyl monovinyl ether and 1,4 cyclohexane dimethanol divinyl ether. Eckberg teaches that mixtures of monovinyl and divinyl ethers reduce the viscosity of the coating mixture, which improves the cure rate of the mixture so that faster and more efficient coating may be achieved (see column 6 line 50-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine the optimum ether mixture without undue experimentation because Eckberg teaches that the mixture of ethers directly affects the cure rate of the coating (see column 6 line 50-63). "Discovery of optimum value of result effective variable in known process is ordinarily within skill of art." *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding **Claim 23**, Eckberg teach applying the composition on the mold surface on the thickness of a micrometer order (see column 5 line 48-61).

Regarding **Claim 29**, neither Aoki nor Lopes teach impregnating a wipe or cloth with a coating composition. It is well known that a coating may be applied with a porous instrument such as wipe or cloth. Fox example, shoe polish is routinely applied to shoes with a wipe or cloth. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to impregnate a wipe or cloth with the composition taught by Aoki because applying a composition to a wipe or cloth allows one to easily apply the composition to an article.

Regarding **Claim 30**, Lopes teaches that silicone coating compositions may be cured (polymerized) by applying heat (see column 3 line 31-52).

4. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable Aoki in view of Lopes as applied to claims 8-9, 15-17, and 23-28 above, and further in view of Dmitroff et al. (US 3,321,019), hereafter Dmitroff.

Regarding **Claim 31**, Aoki in view of Lopes teach every claimed limitation except for uses the mold coated with the release composition to mold a helicopter blade or element. Dmitroff teaches molding a composite fiberglass helicopter blade in a mold (see column 1). Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to mold helicopter blades using the mold and release composition taught by Aoki in view of Lopes because one of ordinary skill in the art would have been able to carry out such a substitution to achieve the predictable result of improving product release from the mold. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Nichols whose telephone number is (571) 270-3969. The examiner can normally be reached on Monday thru Thursday 7:30 AM to 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Christopher S. Nichols/
Examiner, Art Unit 1791**

**/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791**